

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

NCS MULTISTAGE INC.,
NCS MULTISTAGE, LLC,

Plaintiffs,

v.

NINE ENERGY SERVICE, INC.,

Defendant.

PUBLIC VERSION

CIVIL ACTION NO. 6:20-CV-00277-ADA

JURY TRIAL DEMANDED

**DEFENDANT NINE ENERGY SERVICE, INC.'S SUPPLEMENTAL CLAIM
CONSTRUCTION BRIEF REGARDING "CASING"**

[REDACTED]

Defendant Nine Energy Service, Inc. (“Nine”) submits this supplemental claim construction brief as ordered by the Court at the Final Pretrial Hearing to address whether the Court should construe the term “casing” or “casing string” in view of NCS Multistage, Inc. and NCS Multistage, LLC’s (collectively, “NCS”) attempt to raise a claim construction issue on the eve of trial by its Motion for Partial Summary Judgment of No Anticipation (Dkt. No. 120). NCS’s late effort to narrow its claim to save itself from invalidity should be rejected; there is no legitimate argument that the well-understood terms “casing” or “casing string” should be construed narrowly to include a specific, bright-line size limitation. Nothing in the claim language or intrinsic record supports that position; nor would a POSA understand that the term to have a size limitation. A POSA instead would understand that “casing” is defined by how a pipe is used, not by its measurements. But the Court need not dig into these *Markman* considerations, because this issue can be resolved by NCS’s own prior statements and arguments. Despite telling this Court repeatedly in this litigation that the TDP-PO plug is “too small” to be used in casing, [REDACTED]

[REDACTED]

[REDACTED]

Specifically, the only apparent dispute between the parties is whether the TCO TDP-PO prior art tools are “configured for connection in-line with a casing string” as required by the asserted claims. One of the drawings Nine uses to support its invalidity claim is of the TDP-PO 500x300 device, which NCS has argued is “too small” to connect to casing. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] is a sufficient basis for the Court to reject NCS’s

¹ *NCS Multistage, LLC v. TCO, AS*, No. 6:20-cv-00622 (W.D. Tex. Mar. 12, 2020) (Albright, J.)

[REDACTED]

untenable and irreconcilable proposed claim construction.

Even if NCS had not so doomed its own argument, there is still no claim construction dispute. The only issue that would be resolved by adopting NCS's proposed construction of "casing" would be to establish that the TDP-PO 500x300 prior art drawing does not illustrate a tool configured for connection in-line with the casing string. No other issue would be affected by such a construction. Thus, NCS is attempting to leverage *O2 Micro* to circumvent the role of the jury into determining invalidity. *O2 Micro* does not require this result.

Nonetheless, if the Court chooses to construe the term "casing" or "casing string," Nine proposes that it be construed with its plain and ordinary meaning, simply as "pipe run from the surface and intended to line the walls of a drilled well."² That definition is consistent with the '445 Patent's intrinsic record, relevant general and technical dictionaries, and how the term is used in industry and academic publications and the personal experience of Dr. Nathan Meehan. In contrast, NCS's proposed construction would be inconsistent with their own expert's admission that a person of ordinary skill in the art would know that pipe smaller than 3-1/2" can be used as casing – regardless of how common that practice is.

I. ARGUMENT

A. [REDACTED]

Contrary to black-letter law, [REDACTED]

[REDACTED]

[REDACTED] *TVIIM, LLC v. McAfee, Inc.*, 851 F.3d 1356, 1362 (Fed. Cir. 2017) ("Claim terms must be construed the same way for the purpose of determining validity and infringement."). Nine respectfully submits that the Court should not find

² API Specification, Ex. 7 - definition of "casing" § 4.1.5

[REDACTED]

the presence of a genuine dispute over the scope of a claim simply because [REDACTED]

[REDACTED]

[REDACTED] *Data Engine Techs. LLC v. Google LLC*, 10 F.4th 1375, 1381 (Fed. Cir. 2020) (“We have repeatedly rejected efforts to twist claims like a nose of wax one way to avoid invalidity and another to find infringement.”).

Here, Nine has identified the TCO TDP-PO 500x300 tool as an example of the TCO TDP-PO plug that is prior art to the '445 Patent, based in part on a drawing [REDACTED] (the “Prior Art Drawing”). Ex. 4. [REDACTED] Ex. 5 (the “Accused Product Drawing”). Both drawings provide a legend that indicates the connection types on both ends of the tool:



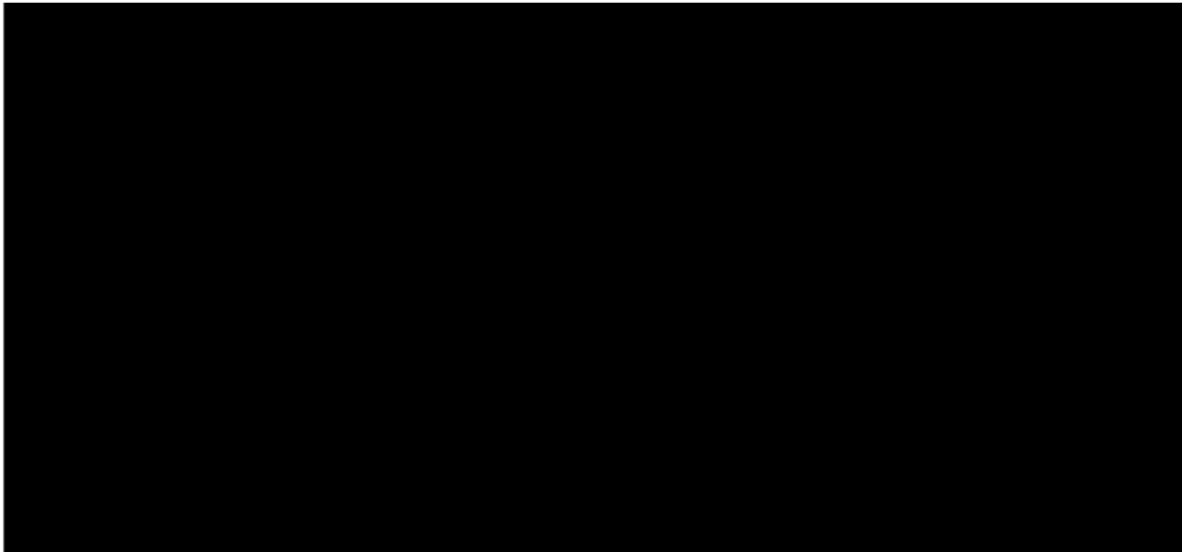
These legends indicate that *both* the Prior Art Drawing and the Accused Product Drawing [REDACTED] Ex. 1, ¶¶ 12-14. In this litigation, NCS contends that such a connection is not “configured for connection in-line with a casing string” because it is “too small.” Dkt. 120, at 4, 6. [REDACTED]

[REDACTED]

[REDACTED]



NCS Final Infringement Contentions, Ex. 6. There is no dispute that both the Prior Art Drawing and the Accused Product Drawing involve the exact same size connections – [REDACTED]. Further, Dr. Meehan has reviewed the Prior Art Drawing and the Accused Product Drawing and has found no meaningful distinction between the two. Ex. 1, ¶¶15-17. Every component in the Prior Art Drawing is present and identical to the components in the Accused Product Diagram. *Id.* at ¶ 17.



Indeed, when the Prior Art Drawing is overlaid on the Accused Product Drawing, the lines vanish due to the *identical* layout of the parts. Ex. 1, ¶ 16-17.

NCS cannot have it both ways. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Thus, Nine respectfully requests that the

[REDACTED]

Court decline NCS's invitation to construe the term "casing" in a manner inconsistent with [REDACTED]

[REDACTED]

B. There Is No Claim Construction Dispute Because Whether The TCO TDP-PO Plug is "Configured For Connection In-Line With a Casing String" Is A Question For The Jury.

Even setting aside NCS's contradictory arguments regarding the TCO TDP-PO 500x300, there is no legitimate claim construction dispute for the Court to decide. Indeed, the parties both agree that "casing" means at least "pipe run from the surface and intended to line the walls of a drilled well." Rodgers Rebuttal Rep., Ex. 22, at ¶ 100. The only apparent dispute is whether this Court should, as a matter of law, narrow the plain language of the claims to limit the scope to plugs connectable to 4-1/2" diameter pipe or larger. It should not. The only issue such a construction affects is whether the Prior Art Drawing illustrates a tool that is "configured for connection in-line with a casing string." But that question is an issue that should be presented to the jury.

As the Court is aware, it must decide any actual dispute regarding the proper scope of the claims. *O2 Micro Int'l Ltd. v. Beyond Innov. Tech. Co. Ltd.*, 521 F.3d 1351, 1360 (Fed. Cir. April 3, 2008). But as the Federal Circuit cautioned in *O2 Micro*, this rule does not require the court to construe *every* limitation present in the claims. *Id.* at 1362 (citing *Biotec Bio. GmbH v. BioCorp, Inc.*, 249 F.3d 1351, 1349 (Fed. Cir. 2001)). For example, claim construction is not necessary where the proposed construction is simply asking the Court, as a matter of claim construction, to decide whether the limitations of a claim were met by an accused device. *See Biotec Bio. GmbH v. BioCorp, Inc.*, 249 F.3d 1351, 1349 (Fed. Cir. 2001).

The *Biotec* case is particularly instructive here. In that case, whether a claim limitation was met in the accused product was to be determined by counting peaks on a diagram. *Biotec*, 249 F.3d at 1348. The parties presented conflicting expert testimony at trial as to which peaks should be counted. *Id.* On appeal, defendant argued that the Court failed to construe the claims by failing to

[REDACTED]

instruct the jury on which specific peaks in the diagram should be counted. *Id.* The Federal Circuit held that the Court did not need tell the jury which peaks to count, but could allow the parties to present competing expert opinions on the issue. *Id.*

Here, the situation is closely analogous. Both parties agree that “casing” is “pipe run from the surface and intended to line the walls of a drilled well.” The only dispute is NCS’s contention that the construction further limit casing to pipe with a diameter of greater than or equal to 4-1/2”. Given that the *only* issue that such a construction would be relevant to is whether the specific 500x300 and 572x375 TDP-PO plugs are “configured for connection in-line to a casing string,” NCS’s request for construction is akin to asking the Court to instruct the jury on which peaks to count in *Biotech*. That is, NCS has attempted to manufacture a claim construction dispute in order for the Court to determine whether two drawings that show examples of the TDP-PO plug discloses claim limitations. Thus, the only genuine dispute between the parties is not over the construction of the term “casing,” but rather on whether the TDP-PO discloses a tool “configured for connection in-line with a casing string.” And that is an issue for the jury.

On that issue, there is ample evidence that the TDP-PO plug is “configured for connection in-line with a casing string,” [REDACTED] Ex. 6. Dr. Meehan will testify that the terms “casing” and “tubing” refer to how a pipe is used, and not how it is marketed. Ex. 1, ¶ 32-33. He will further testify that wells are constructed using casing with 3-1/2” pipe, and thus the specific tools depicted in the TDP-PO 500x300 and 572x375 drawings are configured for connection in-line with a casing string. 1st Amended Meehan Invalidity Report, Ex. 23, at ¶¶ 212-13. Further, Mr. Viggo Brandsdal, [REDACTED] will also provide testimony that the TDP-PO was designed and intended for use with casings and for casing flotation from its inception. Ex. 3, at ¶ 9. He will also testify that it was available to the

[REDACTED]

public in sizes suitable for connection to 4-1/2", 5-1/2" and 7" pipe, and further that TCO was capable of manufacturing it in many other sizes if a customer requested it. Ex. 3, at ¶ 11. He will also testify that prior to the priority date of the '445 Patent, the TCO website advertised that the TCO TDP-PO was designed to be "installed and run as an integrated part of a completion string or liner." As a POSA would understand, a "completion string" refers to a string of tubing used with a completion tool, and a "liner" is a synonym for "casing." Ex. 1 ¶ 27; Ex. 3, ¶ 15. Based on this evidence, a jury would have ample reason to determine that the prior art TCO TDP-PO plug was in fact "configured for connection in-line with a casing string."

C. "CASING" SHOULD BE CONSTRUED AS "PIPE RUN FROM THE SURFACE AND INTENDED TO LINE THE WALLS OF A DRILLED WELL"

If the Court nonetheless chooses to construe the term "casing," Nine respectfully submits that the proper construction of "casing" is "pipe run from the surface and intended to line the walls of a drilled well." Ex. 1, at ¶ 18. This definition is consistent with how a person of ordinary skill in the art at the time of the invention of the '445 Patent would have interpreted the term. *Id.*

The terms of a claim are given the ordinary and customary meaning of the term to a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). That plain and ordinary meaning can be resolved with reference to dictionaries or other "sources available to the public that show what a person of ordinary skill in the art would have understood the disputed claim language to mean." *Id.* at 1314.

The term "casing" has a plain and ordinary meaning that is clearly apparent. Ex. 1, ¶ 20. Even general-purpose dictionaries often include a definition of "casing" related to oil and gas. Merriam-Webster defines "casing" as "something that encases : material for encasing: such as . . . a metal pipe used to case a well." *Id.* Technical dictionaries and glossaries provide similar definitions, none of which place any upper or lower limits on the size of a casing string. *Id.*

Source	Definition
API, Specification for Casing and Tubing (9th Ed. 2011) (Ex. 7)	Pipe run from the surface and intended to line the walls of a drilled well
Society of Petroleum Engineers Petrowiki (Ex. 8)	One of several strings of steel pipe in a well design that, together with cement, forms a barrier to fluid movement along the drilled hole. It is commonly at least partly cemented in the wellbore.
Schlumberger Oilfiled Glossary (Ex. 9)	1.n. [Drilling] – Large diameter pipe lowered into an openhole and cemented in place . . . 2.n. [Well Completions] – Steel pipe cemented in place during the construction process to stabilize the wellbore . . .
William E. Jackson, Rotary Drilling, Casing And Cementing (3rd Ed. 2001) (Petroleum Extension Service – University of Texas at Austin) (Ex. 10)	Casing n: steel pipe placed in an oil or gas well as drilling progresses to prevent the wall of the hole from caving in during drilling, to prevent seepage of fluids, and to provide a means of extracting petroleum if the well is productive.
Texas Railroad Commission, Glossary (last accessed Jan. 7, 2022) (Ex. 11). <i>See also</i>	Pipe cemented in the well to seal off formation fluids or keep the hole from caving in.
Colorado Oil and Gas Commission Glossary (last accessed Jan. 7, 2022) (Ex. 12)	Pipe cemented in the well to seal off formation fluids or keep the hole from caving in.
ConocoPhillips, Glossary of Oil And Gas Terms (last accessed Jan. 7, 2022) (Ex. 13)	Thick walled steel pipe placed in wells to isolate formation fluids (such as fresh water) and to prevent borehole collapse.

While the plain and ordinary meaning of a claim term can be modified or redefined by the intrinsic record, there is *no indication at all* that applicant of the '445 Patent did so for the terms “casing” or “casing string,” nor is there any suggestion of claim scope disavowal or specific lexicography. The only mention of dimensions of casing in the '445 Patent is in one example embodiment where the Specification describes example rupture disc sizes for installation on 4-1/2” and 5-1/2” casing. '445 Patent, at 12:7-13. But nothing in that text suggests that the inventors intended to limit their inventions to only those sizes. Nor can the mere inclusion of an example

without more cannot support a limiting claim construction. *Philips v. AWH*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (“[W]e have repeatedly warned against confining the claims to [] embodiments”).

For these reasons, if “casing” needs to be construed, it should be construed consistently with the widely-understood industry definitions that suggest only that the term “casing” refers to “pipe run from the surface and intended to line the walls of a drilled well.” Ex. 7, at § 4.1.45.

D. NCS HAS FAILED TO SHOW THAT THE PROPER CONSTRUCTION OF “CASING” INCLUDES A SIZE LIMITATION

In the absence of any indication in the intrinsic record that the meaning of “casing” should include a size limitation, NCS’s arguments in favor of its preferred construction are not claim construction arguments, but are instead irrelevant arguments about sizes commonly used in certain applications. NCS’s expert even admits that “smaller size tubing [than 4-1/2”] has been used to case wells,” and merely attempts to minimize that fact by calling it “a rare exception.” Rodgers Rebuttal Rep., Ex. 22, at ¶ 102. But even if pipes smaller than 4-1/2” are even rarely used as casing, Nine respectfully submits that that fact alone would be sufficient to prevent this court from ruling as a matter of law that casing *cannot in any circumstances* be smaller than 4-1/2” in diameter.

Yet, as Dr. Meehan explains, he has *personal experience* supervising the construction of wells using casing with diameters smaller than 4-1/2”, including using 3-1/2” in horizontal wells, and even smaller sizes elsewhere. Ex. 1, ¶ 26. Dr. Meehan also provides numerous example circumstances in which a POSA would use casing smaller than 4-1/2”. *Id.* at ¶ 26. For example, if a well already has 4-1/2” casing installed, and a driller wishes to extend the well or install a sidetrack, then the driller must use casing small enough to fit inside 4-1/2” casing. *Id.* at ¶ 31. Or in some circumstances, well planning may suggest that adequate performance can be obtained using casing smaller than 4-1/2”, which provides considerable cost savings. *Id.* at ¶ 31. Dr. Rodgers may not be aware of such situations, as he has never prepared a well plan. Ex. 14, at 135-23:24.

[REDACTED]

NCS also relies heavily on the API Specification for Casing and Tubing (“API Spec”). Dkt. 120, at 1-3. NCS’s reliance is misplaced. The API Spec is merely a voluntary standard. Ex. 1, ¶ 34. The API Spec itself notes “the formulation and publication of API publications is not intended to inhibit anyone from using any other practices.” *Id.*, Ex. 7, at 4. Further, NCS has conflated the name used to market pipe, as compared to what the pipe *is actually used for*. Ex. 1, ¶ 34. Put another way, a large variety of pipes in various sizes, end types, and grades are made for use in well construction. *Id.* The API Spec itself uses the term “pipe” as a catchall for “casing, tubing, and pup joints as a group.” *Id.*, Ex. 7, at § 4.1.31. While the API Spec provides a listing of pipe sizes for casing and tubing, it also makes clear that categorizing pipe as one or the other does not limit its actual use in well construction. Ex. 1, ¶ 34. This is why the API Specification defines those terms functionally:

[§ 4.1.5] Casing – pipe run from the surface and intended to line the walls of a drilled well

[§ 4.1.45] Tubing – pipe placed in a well to produce or inject fluids

Ex. 7. There is nothing controversial about those definitions, which is why Nine has proposed that the term “casing” be construed with the same definition given in the API Spec. Ex. 1, ¶ 35. Further, the Specification *expressly contemplates* that pipes referred to by the Specification as “casing” can be used “in tubing service.” Ex. 1, ¶ 35. As Dr. Meehan’s experience shows, the reverse is also true – “tubing” can be used in casing service. Ex. 1, ¶ 35.

II. CONCLUSION

For the foregoing reasons, no construction of the term “casing” or “casing string” is necessary, and Nine therefore respectfully requests that the Court decline to order a construction. Nonetheless, if the Court does enter a construction, Nine respectfully requests that it construe the term “casing” to mean “pipe run from the surface and intended to line the walls of a drilled well.”

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 11th day of January, 2022, a true and correct copy of the foregoing document was served via email on all counsel of record.

/s/ Parker D. Hancock

Parker D. Hancock